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ABSTRACT

The manual of classroom observation techniques is intended to provide observers with detailed descriptions of standardized procedures and techniques involved in sequential data collection in a classroom. Focus is on obtaining reliable data on sequential interactions between teachers, peers, and subjects (each of the students in turn is a subject). The coding procedure described identifies behaviors of teachers and peers preceding and following the subject's behavior. Guidelines are given concerning proper equipment function, maintenance of good relations with school personnel, and timing within observations. The observer's actions before, during, and after an observation are specified. How to fill in the coding sheet is explained in detail, as is the proper sequence of coding behaviors. Definitions of the abbreviated observation codes used to describe peer antecedent behaviors, teacher antecedent behaviors, subject responses, and peer/teacher consequences are given. Included is a descriptive version of class activity during a reading period, with completed coding sheets. Finally, procedures are outlined for checking the reliability of observational data. (KW)

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REPORT NO. 4

## CODING MANUAL FOR SUBJECT/PEER/TEACHER ACADEMIC SURVIVAL SKILL SETTINGS

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# Coding Manual for Subject/Peer/Teacher Sequential Interactions in Academic Survival Skill Settings

Report #4

September 1971

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Program II, Prevention and Remediation
Project C, Survival Skills

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# CODING MANUAL FOR SUBJECT/PEER/TEACHER SEQUENTIAL INTERACTIONS IN ACADEMIC SURVIVAL SKILL SETTINGS

Joseph A. Cobb and Hyman Hops[1]

## Introduction

This manual has been written to provide observers with a detailed description of the procedures and techniques required for sequential data collection in an academic setting. Standardized procedures are necessary for the gathering of observation data to maximize the likelihood that results based upon the data have wide practical and theoretical applications. By minimizing procedural difference it seems possible to compare data collected by different observers. The procedures include interactions with academic personnel, timing within observations, and reliability checks. It is hoped that this manual will provide the framework from which excellent data can be generated.

The observer is viewed as the keystone of data collecting in the behavioral approaches to problem solution. In more traditional approaches the use of tests have served a similar purpose that now is served by observers. The test examiner used a standardized procedure for administering a test to reduce differences in the test situation from subject to subject. In addition, subjects were required to respond to similar test items. In observation work the procedures used by observers parallel the test administration procedures and the behavioral codes used by the observers parallel the test items. A detailed description of the former is provided in order that each observer will apply the same procedures before, during, and following the classroom observation.

The "test item" definitions must be clear and concise in order that within and across observers the same "test items" are being applied. If the definitions are unclear then the possibility arises that different observers may use the same "test item" for different behaviors. While the test items in traditional assessment are set, the possibility exists that the "test items" may fluctuate day by day in an observational procedure not because the definition has changed but because the definition used by the observer has changed. Thus, there is need for constant and systematic feedback concerning any discrepancies or lack of discrepancies between an observer's definition and those specified in the manual. In order to determine if such discrepancies exist, a plan for checking reliability will be detailed.

The manual's content is specifically tailored to produce reliable data on sequential interactions between teachers, peers, and subjects. During an observation each student becomes a subject for a specified time period and his (her) behavior, as well as the behaviors of peers and teacher, is observed and coded. The coding procedure is accomplished in a manner designed to identify behaviors of teachers and peers preceding and following the subject's behavior; thus, a sequential pattern can be obtained detailing the antecedent and consequent events of any subject's behavior.

Procedures for Observing in an Academic Situation

The following are a list of guidelines to be followed by the observer to assure smooth data gathering through proper equipment functioning and by establishing and maintaining excellent relations with

school personnel.

A. Before an Observation

1. Check that the timing device used to produce auditory signals is set and working accurately. The device should be routinely checked at weekly intervals and at any other time that an observer thinks the device may not be functioning. When the auditory device is not being used make sure that it is disconnected. The device runs on batteries and can drain the batteries rapidly if left on for any period of time.

2. Be sure you know where the school is located before leaving the office. The use of a map or a check with other people who have been to the school should reduce the chance of getting lost and missing an observation. Have the name, telephone number and the address of the school on a sheet of paper that is to be taken to the observation. If you become lost, telephone the school so that a staff member can direct you there.

3. Check before leaving the office to be sure you have an auditory timing device, an earphone, a clipboard, two sharp pencils, and an adequate supply of coding sheets.

4. Plan to arrive on the school grounds fifteen minutes prior to the time that an observation is to begin. This will allow enough time for preparation so that the observation can proceed on schedule.

5. Follow the rules that apply to visitors to a school.

a. Check in with the secretary at the office and tell

her that you are from Dr. Cobb's office and will be observing in such and such teacher's room from _____ to _____. When going into a new school, in addition to the above, give your name to the secretary.

b. Some schools have dress codes so it is important that you dress in a manner acceptable to the school official; e.g., dresses and not slacks for women, and shirt and tie for males rather than T shirts. Additionally, grooming is important. Long hair and beards for males are acceptable if they are trim and neat. The schools have agreed to participate in projects and in order to maintain satisfactory relationships it is necessary that visitors to the school building follow the same rules that apply to the teachers.

c. After reporting to the office, go directly to the classroom. Plan to arrive approximately five minutes before the scheduled observation. Check to make sure that all children have numbers pinned on them conspicuously; if not, inform the teacher. Check with her (him) on the seating arrangement for the observational period; as soon as the children are in an activity area, make a seating plan putting the children's numbers on the appropriate spaces. When further observations are to be made in the same classroom your diagram will be ready and will only require filling in each child's number.

d. When you enter a classroom a minimal amount of conversation should occur between you and the teacher or students.

This rule is to be applied at all times. Some observers have been placed in difficult positions when they have been asked for advice of a professional nature by teachers concerning difficulties with children in the classroom. In order to avoid that possibility it is wise to talk primarily about the simple mechanics of the observation; e.g., where to sit, what the seating plan will be, who is absent--and not about particular children's good or bad points. This does not mean that you are being unsocial; the usual social amenities are exhibited; e.g., "Good morning," but no extended conversations are held. Teachers know that these rules are in effect so they do not expect lengthy interactions. Likewise, conversations with the children do not occur so that the observation is as little affected by your presence as possible. As soon as you become an active part of the environment; i.e., when children begin to initiate interactions with you, the neutrality of your presence no longer is maintained. Children accomodate quickly to a neutral observer and continue their activities as though the observer were not present.

B. During an Observation

1. As soon as you begin coding, few interruptions should occur. The importance of gathering a continuous flow of data in a highly variable environment cannot be overemphasized. In the classroom the situation can change very rapidly from one in which the teacher is lecturing to one in which she may be asking questions and in the next few moments having children read aloud. Because of this

phenomena it is necessary to sample as many children as possible under each of these conditions. If the time is spent in preparatory activities; e.g., numbering pages, sharpening pencils, etc., then data is irretreivably lost on some children and, as a result, the analysis will be less complete.

2. Children should be coded in the most convenient order for you to produce maximum amounts of data. The teacher may not have the children seated in order of their assigned numbers in which case you should observe using the existing order. For example, in individual seat work the children may be in rows and the numbers of the children in the first row are 1, 12, 8, 3, 4, and 7. You should code using the existing arrangement rather than coding number 1, and going to number 3, then to number 4, etc. This arrangement will vary from day to day as the teacher changes the children's seats. The important aspect is to have the data collected on all children in the same order during an observational session. Thus, in the above example, after all children have been coded once, you would begin coding in the same order again until the observations are completed for that day or the children moved into another activity area. If the latter occurs, you begin a different sequence depending upon the placement of children in the new area. For example, the children may go from individual seat work to a reading group and be seated in a different order. Rather than sticking to the former sequence of coding children that had been used in individual seat work, you code the children according to the new seating arrangement.

3. When two or more observers are coding in a classroom there should be as little interchange as possible. Talking among yourselves should occur only in unusual circumstances; e.g., if an observer has broken both pencil points. Talk about the teacher, the children, the codes, or the functioning of auditory devices should never occur. The less the distraction caused by observer interaction, the less the possibility of obtaining biased data. By having prepared for most contingencies that can occur during an observation, you are freed from unnecessary interaction during the observation itself.

C. Following an Observation

1. You leave the classroom as quietly as possible, stop at the office before leaving the school and tell the secretary that the observation is complete.

2. All equipment is returned to the office and information completed on all sheets.

3. At the office, you can make any corrections that were not made in the classroom. Sometimes in thinking about a particular coding sequence you may want to replace the code that was used with one better describing the behavior exhibited by the person in the classroom.

4. Enter any coding questions in the log book. These will be answered and discussed during observers' meetings. It sometimes happens that an existing code does not seem to describe the situation that is being observed. By writing this down immediately following an observation the likelihood of forgetting decreases and the infor-

mation gained regarding the incompleteness of the current system will aid in making subsequent revisions.

5. In a notebook record the impressions received during the classroom observation. A paragraph or two describing the situation as specifically as possible will help the psychologist working with the teacher in the classroom.

## The Coding Sheet

Each coding sheet consists of a heading and six blocks of coding symbols. (See Appendix for copy of observation sheet.) In the upper right hand corner beside the word "Page," number each page sequentially for each group during an observational period. For example, when all children in the classroom are being observed for the entire session, you begin with the number "1" and sequentially number each successive sheet used until the observation is completed. When different groups of children are observed during the academic period, the sheets are sequentially numbered beginning with the number "1" for each group. For example, consider two observers in a classroom during reading while the teacher has seatwork and small reading groups ocurring simultaneously. Each observer codes a different group of children and each numbers the first coding sheet "1", the second "2", etc. When the children switch from one situation to another, so that the reading group is now engeged in individual seat work and the other children are in a reading group, each observer continues the same sheet numbering sequence for each group. One observer is on page "21" when the children switch, then the next page in the changed activity is

numbered "22". By using a sequence of numbering it is possible to tell during which part of the period one activity occurred for each group of children. Before and during the observation you should number all the sheets that are used. This process protects against the possibility of sheets being out of order. In one analysis, the data is examined by looking at the change of behaviors within an academic period; if the sheets are improperly ordered, the analysis will be invalid.

Beside the word "Date", you record the day, month and year that the observation occurs. The year is necessary as some classrooms are observed for more than one year. Beside the word "Observer", place your initials. Beside "Time", record the time the observation began on the coding sheet numbered "Page 1" and disregard the time on all other sheets except the last numbered sheet. On the last numbered coding sheet the time should be entered. If you use "Page 1" more than once during an observation, then the appropriate time should be entered on the first and last numbered sheet of each series. The teacher's last name should be placed in the space provided beside the word "Teacher".

Classroom Settings

The next five words are used to grossly define the classroom situation. They are defined as follows:

Structured: The teacher has provided clear and specific guidelines for the children's activities. For example, the teacher has given clear instructions to the children about the work to be done

at their desks and the acceptable activities that can be engaged in once the work has been completed.

Unstructured: The guidelines for the children's activities are vague and non-specific. For example, the children are engaged in various non-supervised activities in the classroom and they determine what they are going to do.

Group: The majority of children being observed are engaged in a group activity. Examples include children sitting in a small reading group, and the entire class listening to the teacher lecturing or a child reciting.

Individual: The majority of children being observed are engaged in individual as opposed to group activity. Individual includes solitary work as well as two or three children working together. Children working on assignments at their desks and children working in pairs on assignments are some examples.

Transitional: The majority of students being observed are between activities within a period, between academic periods, or between non-academic periods. Examples include children moving from a reading group to work on individual assignments during a reading period, children changing from a reading period to an arithmetic period, and children preparing to go to recess at the end of a reading period.

Coding Behavior

Within each of the six coding blocks there are four lines of behavioral codes. The first line is reserved for peer antecedent behaviors that are directed at the subject. Otherwise the line is not

marked.

The second line is reserved for teacher antecedent behaviors directed at the subject or a peer. The third and fourth lines are used for the behaviors of the subject as well as the consequent behaviors by the peers and/or teacher.

The five explanatory symbols on the right hand side just above the behavior codes designate the appropriate symbols to be placed over the codes during observation. These are used to identify the source and direction of each behavior.

A circle ( O ) refers to behaviors involving the Subject. When used on lines one or two as peer or teacher antecedent behaviors, it refers to behaviors directed at the subject. When used on lines three or four, it refers to subject behaviors.

A horizontal line ( — ) refers to behaviors involving Peers. On the second line, this symbol signifies teacher behaviors directed at a peer which is antecedent to the subject's behavior. On the third and fourth lines, it refers to peer responses to subject behaviors.

A vertical line ( | ) through a code refers to Teacher behaviors. When used on the second line as a teacher antecedent behavior, it refers to teacher behavior which does not involve the group being observed. On the last two lines it indicates the teacher's response to a subject behavior.

An ( X ) refers to teacher antecedent behavior directed at the Group, which always includes the subject and is coded only on the second line.

A check-mark ( ✓ ) signifies the occurrence of a Teacher-to-Peer behavior following the occurrence of a subject response. This can be coded only on the last two lines of the coding block. For example, the teacher asks the subject a question to which he responds incorrectly. The teacher then asks a peer the same question. The teacher's second behavior is coded by placing a check-mark on the symbol for question ( A✓Q ).

More than one symbol can be placed over a behavioral code. For example, the teacher and several peers are looking at the subject as he writes an answer on the blackboard. The code for teacher and peers behavior would be attending ( AT ) and a vertical line ( | ) for teacher as well as a horizontal line ( — ) for peers would be placed on AT on the third line of the coding block, i.e. ( ⊥T ).

## Coding Sequence

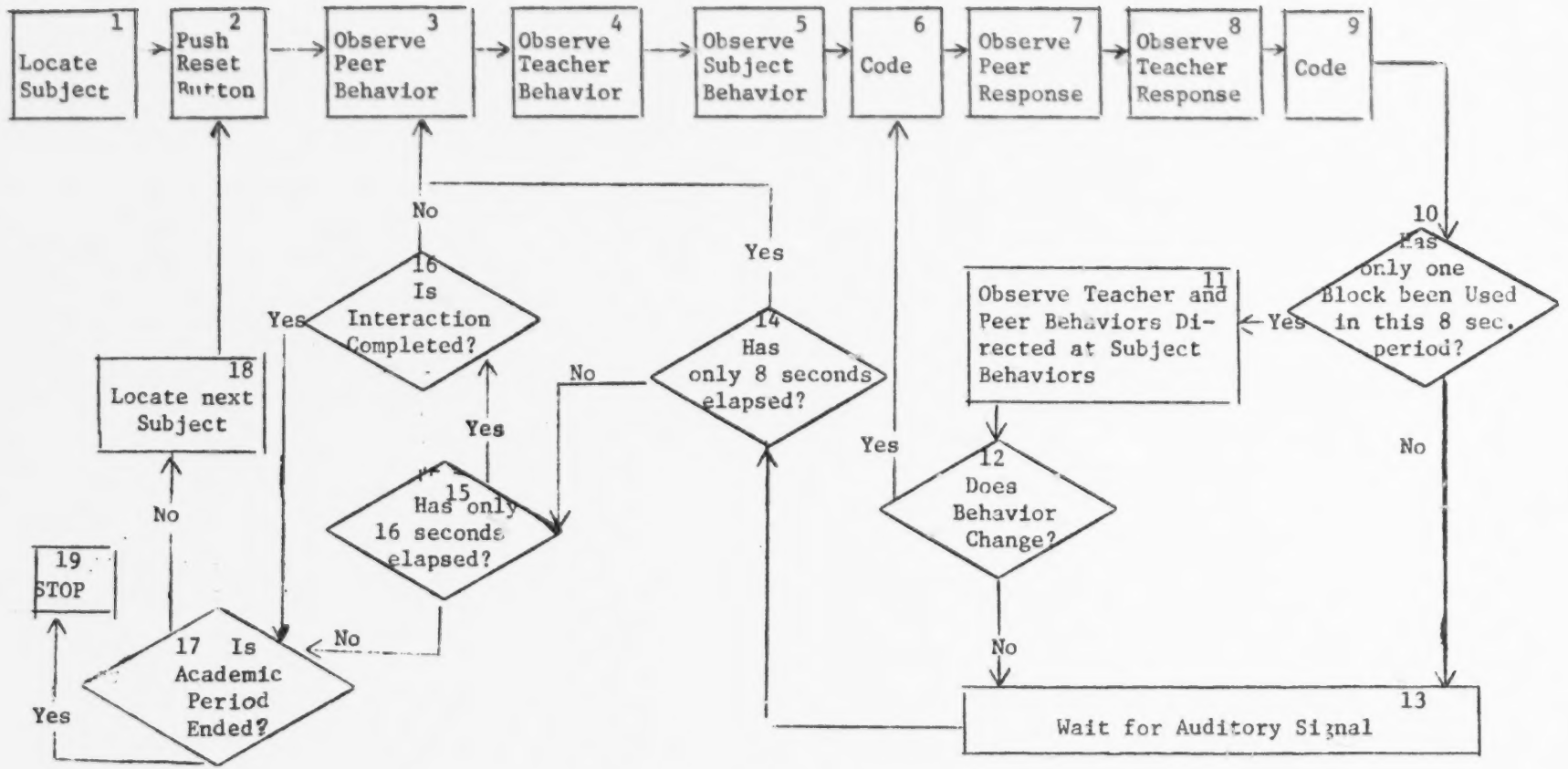
The proper sequence of coding behaviors is imperative not only for observer reliability to be maintained at high levels but also for creating meaningful data bank. The data bank is used for analysis of intervention effectiveness, of peer and/or teacher behavior influence on subject behavior, and of other questions both practical and theoretical. The sequencing should follow the outline provided below. (See Figure 1.) (Page 12a.)

An explanation of the steps follows:

1. Locate the subject: When coding, the first task is to locate the child to be coded. In some cases this act will take a second in that the child will be in close proximity to the previous child for

Figure 1

Coding Sequence for Observations


1 Locate Subject
2 Push Reset Button
3 Observe Peer Behavior
4 Observe Teacher Behavior
5 Observe Subject Behavior
6 Code
7 Observe Peer Response
8 Observe Teacher Response
9 Code
10 Has only one Block been Used in this 8 sec. period?
11 Observe Teacher and Peer Behaviors Directed at Subject Behaviors
12 Does Behavior Change?
13 Wait for Auditory Signal
14 Has only 8 seconds elapsed?
15 Has only 16 seconds elapsed?
16 Is Interaction Completed?
17 Is Academic Period Ended?
18 Locate next Subject
19 STOP
Yes
No

which coding has been completed. By setting up the observation (see page 4) to minimize the time spent in locating the children more data can be gathered.

2. Push Reset Button: As soon as you locate the child depress the reset button. This saves time and you can immediately begin observing the interaction that is to be coded rather than waiting for the auditory click which occurs every eight seconds.

3. Observe Peer Behaviors: This phase consists of determining whether peer behaviors are being directed at the subject; other behaviors of the peers are not coded.

4. Observe Teacher Behaviors: Look at the teacher's activity; the teacher's behavior is coded even when it does not involve the subject.

5. Observe Subject's Behaviors: The next step is to observe what the subject is doing.

6. Code: At this point use the applicable codes to depict the observed activities of peer, teacher, and subject. If the peer's behavior was directed toward the subject, the behavior is coded within the first line--otherwise the first line remains blank. The teacher's behaviors are coded on the second line and the subject's behaviors in the third or fourth line. Code as many behaviors as were observed for subjects, peers and teacher. For example, if the subject was exhibiting three behaviors that are defined by the coding system, all behaviors should be coded.

7. Observe Peer Responses: After coding the subject's behavior, scan the classroom to determine if any peer responded to the subject's

behavior.

8. Observe Teacher Responses: Check to see if the teacher responded to the subject's behavior.

9. Code: The observed responses are then coded in lines three and four of the same block which was used in step #6. Code as many responses as occurred. At least one teacher's response must be coded in every block; the peer's responses are only coded if they were directed to the subject.

10. Has only one block been used during the eight second period? If you have used one block for coding, then the next step is #11; if you have used more than one block, go to step #13.

11. Observe Teacher's and Peer's Behaviors directed to the Subject and Subject Behaviors. Oftentimes within an eight second period behavioral change occurs and you have time to code the changes before the end of the eight second period. By continuing to observe the subject, teacher and peers after step #9 you can gather valuable data.

12. Does Behavior Change? If the behavior of teacher, peer and subject remains the same, proceed to step #13. Otherwise, return to step #6. In returning to step #6 use the next coding block on the observation sheet and record in the following manner: code peer behaviors on the first line if they are directed to the subject, teacher behaviors on the second line only when there is a change in the behavior from the response coded in the previous block. From step #6 continue through each successive step, i.e., #7, 8, 9, until reaching step #10 which leads then to step #13.

13. Wait for Auditory Signal: If the behavior has not changed or you have coded two blocks since the last auditory signal, wait for the next signal while preparing for the next step.

14. Has only eight seconds elapsed? If the subject has been observed for only eight seconds, return to step #3. A slight variation occurs in the second coding; if all behaviors are the same, place a diagonal line through the entire block that has already been coded. The diagonal line indicates that no changes occurred in either the peer's subject's or teacher's behavior. If after placing a diagonal line a change does occur, then step #6 should be followed using a new coding block.

Additionally, if a subject-teacher interaction has been occurring and the response of the teacher (which has been coded in the previous coding block) serves to elicit behavior of the subject, then the Teacher Antecedent Behavior line does not have to be coded even though an auditory signal occurs. Thus, it is possible to code a teacher consequence, hear the auditory signal, and immediately code a subject response in the next block without coding a prior Teacher Antecedent Behavior.

15. Has only 16 seconds elapsed? If the subject has been observed for 16 seconds move to step #16. However, if the subject has been observed for 24 seconds proceed to step #17. In no case are subjects to be observed for longer than three consecutive eight second periods.

16. Is the interaction completed? If there is a continuing interchange occurring between the teacher and the subject, return to

step #3 and go through the entire sequence again from step #3 through #15. This provides important data on the nature of the total interaction between the subject and teacher whenever possible. Even after coding an additional eight seconds for a total of 24 seconds the interaction may still not be completed. Place the code letters II (Incomplete Interaction) next to the code NR on the fourth line of the last coded block. Twenty-four seconds is the maximum time allowed in order to be able to code as many children as possible.

17. Is the academic period finished? If the academic activity continues proceed to step #18, otherwise to step #19.

18. Locate the next subject. Look for the next child to be coded and return to step #2.

19. STOP: The academic period is completed and the observation is over.

## Definitions for Observation Codes

### PEER ANTECEDENT BEHAVIORS

AT Attending to the Subject:

Peer is in close proximity and looking at the subject, i.e., peer is not across the room from the child but close enough so that social interaction is possible.

IS+ Interaction with the Subject about Academic Material:

Peer is talking with the subject about relevant academic material, i.e., academic material that is being taught during that academic period. For example, a peer talking with the subject about mathematics during a reading period would not be

considered IS+ unless the children have the approval of the teacher.

IS- Interaction with the Subject about Non-Academic Material:

Peer talks with the subject about non-academic material or about academic material that is not related to the period in which the observation is occurring. Examples are children talking about the lunch menu, "Wild Kingdom", father's new car, dogs, cats, etc. This code does not apply if such topics are considered academic by the teacher. In many language experience programs children will talk about such subjects as part of a planned curriculum and in such cases the conversation would be coded IS+. Children discussing reading during math periods would be coded IS- unless the teacher has given permission for such activity.

PI Peer Initiation:

Peer is the person who initiated an IS+ or IS-. If the subject initiated the interaction or the observer does not know who initiated the interaction then PI is not used; the appropriate code is IS+ or IS-.

DS Disruptive Behavior to Subject:

The behaviors constituting this category are fairly intense and likely to provoke some censure from other people in the classroom. Hitting, threatening or yelling at the subject are the prime behaviors that fit this category.

TEACHER ANTECEDENT BEHAVIORS:

QA Question Academic:

Teacher is asking a question, verbally or nonverbally, the content of which is academic. The verbal aspect need not be stated in the form of a question but can be determined also by the inflection in the teacher's voice. For example, in a reading group the teacher says, "The boy ran to the store," rather than "Did the boy run to the store?"; the inflection of the word "boy" plus a short pause after the word "boy" would indicate that the first statement was actually a question. Thus, a question clearly stated or an inflectional statement which implies a question are both coded as QA. Nonverbal questions are gestures used by the teacher that indicate an answer is expected. Examples are the presentation of flash cards and pointing to words on the blackboard.

QM Question Management:

Teacher is asking a question relating to activities that generally precede academic responses. The difference between academic and management can be determined by the nature of the response that is expected. For academic categories an academic response is required and for a management category the expected response is one that sets the stage for academic responding. Examples of management questions are: "Does everyone have their book open to page 23?", "Will you bring your chairs to the reading group?", "Do you have your pencil?" The same rule regarding

inflection applies here, i.e., the teacher may make a statement that transcribed would indicate a declarative sentence but by listening to inflections the statement is actually a question.

QD Question Discipline:

Teacher is asking a question regarding the content and form of classroom social interactions, personal conduct, or the handling of classroom materials. Examples are: "Is it necessary for you to talk so loudly and bother your neighbor?", "What did I say about the number of children at the pencil sharpener at one time?, "Do you always have to run into the room when you return from recess?" The distinction between Questions Discipline and Questions Management occurs by the non-academic quality of the former as opposed to the latter. For example, the teacher may want the children to have their pencils sharpened in order to do some academic tasks so the question is asked, "Does everyone have their pencils sharpened?". Several children respond in the negative and rush to the pencil sharpener and the teacher asks, "What are you ALL doing at the pencil sharpener at one time?". The first question is QM and the second is QD.

CA Command Academic:

The teacher will make a statement for which an academic response is expected. Examples are: "Tell me the number of different people that are in the house that Jack built." "Tell me the vowel names." "Do the problems on page 55."

CM Command Management:

A management command can occur as part of a preparation for

an academic activity or during the activity itself. For example, the command, "Bring your chairs to the reading group," occurs before reading actually begins; the command, "Turn to the next page," can occur during the academic activity but the child's response does not have to be academic in order for compliance to occur. The child can turn the page which indicates compliance but this does not ensure that the child is going to read the page.

CD Command Discipline:

The teacher gives a command whose content relates to the content and form of social interactions, personal conduct and/or the handling and treatment of classroom materials. Examples are: "Sit quietly in your seats while I go to the office." "Don't make any marks in your books or write on your desks." "Leave the room." "I don't want you to rub your eyes." "Fold your hands in your lap."

AT Attention:

The teacher looks at the subject or engages in other behaviors that generally indicate that she is paying attention to the child. For example, the child is reading aloud and the teacher follows in her book or looks at the child. The child is working at seatwork and the teacher leans over the child's shoulders and examines the work.

LC Lecture:

The teacher is imparting academic information to the students

without immediate feedback from the students. For example, the teacher tells the students about the rules governing sounds, cursive writing, adding numbers or multiplying. The lecture need not be extended over a long period but can be as short as a minute or less--the defining characteristic is the lack of interaction with the students when the teacher is presenting information.

RD Reading Aloud:

Teacher is reading aloud to or with a student or students. The reading may be from a book or from any teaching aides; e.g., blackboard, charts, etc. Simply following in a book as a student reads, without reading aloud, would be coded AT.

TT+ Talk About Academic Material:

The teacher is discussing academic material with a student. For example, the teacher illustrates the difference in the sound of a vowel preceded by certain consonants, or the difference between b and d. The distinction between this category and LC is the student variable. With TT+ the teacher is interacting with the student whereas in LC minimal interchange is occurring.

TM Talk About Management:

The teacher is talking to the students about activities preceding academic responses. For example, the teacher may say, "I want to work out a system for your bringing your seats to the reading group. I think if we have the previous group leave some of their chairs it will make it easier for you," or "We need to have more workbooks available." "There are not enough pencils

to go around." "We should have the books opened to the right page when we begin reading."

TD Talk about Discipline:

The teacher is talking to students about content and form of social interaction, personal conduct, and/or the handling of classroom materials. Examples include: "I want to see if we can help Johnny to be quieter." "This class was noisy today." "Too many people are out of their seats during the time you were supposed to be working at your desks."

TT- Teacher Talks about Non-Academic Material:

Use of this category applies to teacher's verbal behavior when the content is non-academic. The non-academic quality refers to subject matter not pertinent to the academic period in which the observation is occurring. For example, talking about mathematics problems during reading is coded TT-. A more frequently occurring phenomena is talking about lunch programs, plays, personal experiences, and non-related school activities when an academic period is in progress. For those situations in which any of the above topics are appropriate to a particular curriculum approach; e.g., language experience programs, then the code TT- is not to be coded. Instead the code TT+ should be used.

AP Approval:

The teacher gives clear verbal, gestural, or physical approval to the students. The verbal include statements contain-

ing praise for the student's work, attitudes, appearance, and/or conduct; it does not include simple feedback as to the correctness of an academic response; e.g., "That answer is right," unless the statement is said with emphasis; e.g., "That's right!" Gestural behaviors include smiles, nodding of the head and clapping of the hands. Physical approval includes hugs, pats on the back, and other physical contact of a positive nature.

DI Disapproval:

The teacher gives clear verbal, gestural, or physical disapproval of the student's behavior or characteristics. The verbal include statements containing dislike, disgust, dismay, unhappiness, and/or perturbation over the student's work, attitudes, or appearance; it does not include simple feedback as to the incorrectness of an academic response; e.g., "That's wrong" unless the statement is expressed in derogatory tones. Examples of statements that fulfill the criteria are: "I don't like that tone of voice." "You didn't pass in your homework on time." "Your work is sloppy." "Why don't you get a haircut." "Can't you ever sit quietly--just for one minute." Gestural behaviors include frowns and shaking of the head. Physical includes hitting, spanking, pulling hair and tugging at the arm.

DS Disruptive to Others:

In this category behaviors that are likely to be disruptive are included. They include yelling, hitting, noisiness, spanking, pulling hair, tugging at a student's arm, pulling the student

bodily and banging objects. For example, the teacher may find a child engaged in a fight in the classroom, and will throw an object at the child or bang a book on the table or bodily pull the child away from the fight.

OT Other Teacher:

The teacher is engaged in activities not involving the group of students being observed. She may be working alone at her desk, talking to visitors, answering questions from students who are not part of the group she is teaching, or out of the room for a few minutes.

TG Teacher Involved with Small Group Work:

This category is coded when the teacher is involved with other groups of students for extended periods of time while a different group of children are being observed. For example, the children being coded are doing individual seatwork and the teacher is working with a different group of children on oral reading. Details of the teacher's interaction with the group not being observed is irrelevant and need not be coded. However, if the teacher begins to interact with any of the children being observed, TG is not coded; another more appropriate teacher antecedent behavior is used. For example, the teacher may tell one of the students in the group being observed to be quiet and CD would be coded.

The distinction between TG and OT is that in TG the teacher is primarily involved in teaching a group of students that are

not being observed whereas in OT the teacher is involved with the group being observed, but momentarily distracted by other events, or is working alone without student involvement.

SUBJECT RESPONSES AND PEER/TEACHER CONSEQUENCES

The subject responses defined below are also applicable to peer and teacher consequences which result from the subject responses. Rather than going into extensive detail and giving numerous samples of the subject responses when they are employed for teacher or peer consequences, examples have been given for only those code categories that might cause some confusion in application. For the other categories examples are presented only for the subject. It is assumed that the applicability of the codes as peer or teacher consequence is clear enough that examples are unnecessary. The general rule is that most codes listed can be applied to subject behaviors as well as to peer and/or teacher consequences. The prime criteria for applying the codes to teachers or peers is that the teacher and/or peer has engaged in the behavior as a result of the subject's actions. The interaction between peers and teacher is irrelevant for the coding system unless it stems directly from the subject's behavior. An example may clarify the meaning. The teacher has asked a question to the subject and her behavior has been coded on the second line of the coding block. The subject gives a wrong answer and a peer immediately gives the correct answer. In this case both the subject's behavior and the peer's behavior are coded as the peer's behavior followed from the incorrect answer given by the subject. If the

teacher had asked a peer the question and the subject was attending while the peer gave the correct answer, her behavior would have been coded on the second line. The subject's behavior would have been coded, but the peer's behavior would not have been. The distinction is that the peer behavior in the first example resulted directly from the subject's behavior but in the second instance it was the result of the teacher's behavior. Thus, in examining and applying the following definitions, it is important to keep in mind that the behavior can apply to all agents but is only coded for peers or teachers when their behavior is a direct result of the subject's behavior.

AT Attending:

To be a subject response the subject should be looking at the teacher when the teacher is talking, looking at any materials in the classroom that have to do with the lesson, and engaging in other behaviors appropriate to the academic situation. Some examples of AT being a subject response are the child looking at the blackboard when the teacher is going over words, watching other children when they are writing at the blackboard, walking to the pencil sharpener, and taking materials out of the desk to use in the academic session. AT is also coded if the child has finished the assignment and is engaging in activities approved by the teacher.

To be a teacher or peer consequence the behavior need not be in regard to academics, i.e., teacher or peer looks at the child or engages in other behaviors that indicate they are paying

attention to the child. For example, the subject can be engaging in horse play and the teacher and/or peers look at the child; the child is reciting and the teacher and/or peers look at the child or follow along in their books as the child reads. Both cases would be coded AT for the peer and/or teacher consequences.

LC Lecture:

The teacher is imparting academic information to the students without immediate feedback from the students. For example, the teacher tells the students about the rules governing sounds, cursive writing, adding numbers or multiplying. The lecture need not be extended over a long period but can be a minute or less--the defining characteristic is the lack of interaction with the students when the teacher is imparting information.

RA Reading Aloud:

The subject, peer or teacher is reading aloud. This can be done individually or as part of a group recitation. For example, the teacher asks the children to read words from the blackboard and the subject as well as other children read the words, the teacher asks the subject to read a passage from a reading book and the subject does so.

WK Working:

The subject or peer is working on academic material without any overt verbal components, either in a group or individual seatwork situations. Two examples are: the child following along in a reading book as another child reads a passage,

and the child writing answers in a workbook. Any activity that is considered part of the academic curriculum by the teacher is considered work if the child is engaged in the activity without any overt component. For example, coloring, painting, and completing puzzles are considered WK in reading periods when the teacher designates such activities as part of the reading program.

AQ Answers Question:

The subject or peer answers a question posed by the teacher, but the observer cannot make out whether the answer is right or wrong.

RT Right Answer:

The subject or peer gives a correct answer to an academic question by the teacher.

WR Wrong Answer:

The subject or peer gives an incorrect response to an academic question by the teacher.

DK Don't Know:

The subject or peer indicates that he does not know the answer in a verbal or non-verbal manner. For example, the child shakes his head, says, "I don't know", or sits and says nothing in response to a question.

IT Initiate to Teacher

Subject or peer initiates or attempts to initiate an interchange with the teacher that is not in conjunction with VO, volunteering. For example, the student may go to the teacher's

desk during independent study or raise his hand to seek assistance regarding the clarification of instructions about an assignment. The peer may approach the teacher following an interchange with the subject.

CL Call Out:

The subject or peer calls out an answer when a question is directed to another student or the student interrupts the teacher or another student when they are talking. For example, the teacher is explaining the reading workbook's purpose and the subject interrupts by saying, "I saw that workbook on your desk last week." Or the teacher asks a question to another student and the subject gives the answer without letting the other student respond.

VO Volunteering:

By verbal or non-verbal means, the subject or peer exhibits behaviors associated with volunteering information of an academic nature. For example, the student raises a hand in response to a group directed question by the teacher; the student answers a question directed at the group; the student calls out an answer or provides other information pertinent to the discussion.

QA Question Academic:

The same definition applies as in Teacher Antecedent Behaviors except that peers, subject and teachers can exhibit the behavior. For example, the subject might ask the teacher how to spell a word, or the peer might ask the subject a question.

QM Question Management:

Same as QM in Teacher Antecedent Behavior except that the code is applicable to the subject, peers and teacher.

QD Question Discipline:

Same as QD in Teacher Antecedent Behaviors except the code is applicable to the subject, peers and teacher.

CA Command Academic:

Same as CA in Teacher Antecedent Behaviors except the application of the code is to subject, peers and teacher.

CM Command Management:

The definition is similar to CM in Teacher Antecedent Behaviors except the applicability is broader to include peers and the subject as well as the teacher.

CD Command Discipline:

Same as CD in Teacher Antecedent Behaviors except the code applies to subject, peers and teacher.

TT+ Talk About Academic Material:

The definition is the same as applies to TT+ in Teacher Antecedent Behaviors except the code's applicability is extended to the subject and peers as well as the teacher.

TM Talk About Management:

The definition given under Teacher Antecedent Behaviors applies but is extended to peers and subject as well as the teacher.

TD Talk About Discipline:

The definition given under Teacher Antecedent Behaviors is

applicable and includes peers and subjects.

TT- Talk About Non-Academic Material:

The definition is the same as applies to TT- in Teacher Antecedent Behaviors and applies to the subject and peers as well as the teacher.

SI Subject Initiates:

The subject initiates an interaction (IP+ or IP-) with a peer rather than the peer initiating an interaction with the subject. The code is only used when the observer knows that the subject has been the initiator.

IP+ Interaction with Peer about Academic Material:

The subject is interacting with a peer or a peer is interacting with the subject about academic material that is appropriate for the academic period in which the observation occurs. The interaction can be either verbal or non-verbal. Examples are: the subject and peer discussing instructions for carrying out a reading workbook assignment, the subject and peer working on an arithmetic problem together.

IP- Interaction with Peer about Non-Academic Material:

The subject is interacting with a peer or a peer is interacting with the subject about academic material inappropriate for the academic period in which the observation occurs (unless approved by the teacher) or about non-academic material. The interaction may be verbal or non-verbal. Examples are: the subject and peer doing reading assignments during the arithmetic

period or the subject and peer talking about a new bike.

DP Disruption Peer:

This category is defined in the same way as DS under Peer Antecedent Behaviors except that the person engaging in the behavior can be either the peer, teacher or subject. For example, the subject can hit the peer and the peer in return hit the subject.

DT Disruption Teacher:

The subject, teacher, or peer are engaging in disruptive behavior as defined by DS under Teacher Antecedent Behaviors. For example, the subject can yell at the teacher, or the teacher may pull the subject's hair.

DA Disruption All:

The subject, teacher or peer are exhibiting disruptive behaviors, i.e., fairly intense behaviors like yelling, throwing objects, running, that actually have the possibility of strongly disturbing more than one peer or the teacher. For example, the subject bangs a book on the desk, or the peer shatters a piece of chalk against the blackboard, or the teacher yells at the subject, "Get back in your seat, or else I'll send you to the principal's office!"

PL Play Inappropriate:

The subject or peer is playing and that activity is inappropriate as defined by the teacher. For example, the child is playing tic tac toe with another student while individual

seat work is going on, the subject is doodling, or the subject is running a toy truck on his desk. Such activities are not considered PL if the subject or peer has completed his work and the teacher has specifically stated that play is appropriate. If the subject has not completed his work and is playing, then PL is the applicable code.

IL Inappropriate Locale:

The subject or peer is in a classroom area that is not appropriate for the academic activity that is going on at that time. For example, the subject is walking around the room when individual seat work is occurring; instead of joining a reading group, the subject stays at the desk.

LO Look Around:

The subject, peer or teacher is looking around the classroom environment or staring at something or someone that is not relevant to the current academic activity. For example; the subject looks out the window as other children are playing during their recess, stares at another child across the room when individual seat work has been assigned, or looks around the room from object to object while another child is reading aloud.

SS Self-Stimulation

The subject is moving parts of the body to such an extent that engagement in academic activities is precluded. The child scratches an arm, rubs the nose, swings the feet, squirms in the chair, to such an extent that attention is directed at the

body rather than on the academic material. The "normal" squirming and movement of the body is not coded, only those instances in which the child is totally engaged in the stimulatory activity.

NA Not Attending:

The subject is in the appropriate area but is looking at other things in the immediate environment than those aspects relevant to the current academic activity. For example, the teacher is explaining a lesson but the student is thumbing pages in the book; a peer is reciting but the subject is working on academic material from another academic period without the permission of the teacher; the subject ties a shoe while other children are reading silently in a reading group. The distinction between the category LO is the aspect of the environment that is being investigated by the child. For LO to be coded the environment is more than a few feet from the child; for NA the boundary is inside that few feet. Thus the child may be staring at the desk and that would be coded NA, but if staring was directed at another child's desk then the code is LO.

AP Approval:

The same definition applies as that given for AP in Teacher Antecedent Behaviors except that the AP is applicable for subject, peer and teacher.

SC Second Chance:

In a variety of ways the teacher gives the subject or peer a second chance to make an academic contribution after the first

attempt was unsuccessful. The teacher may repeat a question, re-phrase a question, provide hints, simply wait for another answer, etc. For example, the teacher points to a word on the blackboard and tells the subject to pronounce it. The subject cannot, whereupon the teacher asks the subject to sound out the first letter.

DI Disapproval:

The same definition applies as that given for DI in Teacher Antecedent Behaviors except the DI can be exhibited by teacher, peer, or subject.

IG Ignore:

The teacher, peer, or subject indicates by non-verbal behavior that they heard or saw the action of another person but are not responding to the behavior of the other individual. For example, the subject approaches the teacher, asks a question and the teacher turns her head; the subject hits a peer within view of the teacher, the teacher walks away.

NC Non-Compliance:

The teacher, peer, or subject does not do what is requested in a command from another person. For example, the teacher tells the student to clean his desk and the subject does not do so; the teacher tells the group to put away their books and the subject does not.

When the teacher gives a command to the entire group every member of the group is to be immediately coded on whether com-

pliance or non-compliance occurs. For example, the teacher tells the students to come to the reading group, every child that belongs in the reading group is to be coded; the child does not have to complete the action requested, but must behave in such a way that the action is likely to be completed. For example, the teacher tells the children to take out their books and turn to page 53. The first child to be coded may just be reaching in the desk and the behavior is coded CO, the second child might have the book out of the desk and the code is CO, and a third child has not reached into the desk--the code is NC.

CO Compliance:

The subject, teacher, or peer is doing what has been requested in a clearly stated command. For example, the teacher asks the subject to close the door and the subject does so.

NR No Response:

The teacher, peer or subject make no observable response to the behavior of another individual. The NR category differs from the IG category in that IG indicates that the person heard or saw behavior of another individual but turned away or provided some other behavioral evidence that he did not wish to be involved. NR, on the other hand, means that no response was directed at the individual as the result of an interaction. For example, the teacher asks the group, "What is the capital of Oregon?", and the subject replies, "Salem"; the teacher looks at her answer book and says nothing.

SAMPLE CODING SITUATION AND PROTOCOLS

The following is an enriched descriptive version of classroom activity during a first grade reading period. The proper codes are included in the text and the number of the child being coded is underlined. Completed coding sheets and a sample sheet are included at the end of the descriptive segment. (Pages 40a through 40e.)

The observer, Sharon Denaro, has entered the classroom on September 17, 1971, and is going to code nine children's behaviors during a small reading group conducted by the teacher, Mrs. Colby. The first graders not involved in the reading group have been given workbook assignments to be completed at their desks. The observation begins at 9:45 A.M.

The children are arranged in a semi-circle in the following order: 1, 7, 6, 9, 4, 5, 2, 8, 3. Sharon begins coding with child 1.

Child 7 asks child 1 what page they are supposed to be on ( (IS+) (PI) ). Mrs. Colby directs an academic question to child 6 ( ~~QA~~ ). Child 1 tells 7 the page number ( (IP+) ) and child 7 finds the page ( ~~WK~~ ). Mrs. Colby thanks 1 for helping 7 ( AP ). (The auditory signal buzzes. Astericks ( * ) are provided on coding sheets to indicate that the buzzer has sounded.) Mrs. Colby asks an academic question of the group ( QA ). 1 gives the answer but it is wrong ( (WP) ). Mrs. Colby directs the same question to child 5 ( QA ) who gives the correct answer. (The buzzer sounds.)

Child 6 pushes 7 ( (DS) (PI) ) (Note: Child 7 is now the subject.) who responds by pushing back ( (DP) (IP-) ) and saying in a loud voice,

"Stop bugging me!" ( DA ). The teacher, who has been asking academic questions of the group ( ~~QA~~ ), stops and says to 7 after the outburst, "I want you to read the next paragraph." ( CA ) (The buzzer sounds.) Child 7 reads ( RD CO ) while the teacher follows in her book ( AT ). The teacher interrupts and says, "What was the first word in the last sentence?" ( QA ) The child gives a wrong answer ( WR ) and 6 says, "Stupid." ( ~~DI~~ ) The teacher says, "Sound out the word." ( SC CA ) (The buzzer sounds.) The child says that he does not know the sound ( DK ) and the teacher asks the class if anyone can help with the sounds ( QA ). (The buzzer sounds.)

Several children volunteer to help with the sounds and the teacher calls on child 8 to read the next paragraph ( ~~CA~~ ). Child 6 (new subject) is running a car back and forth on his book ( PL ). The car falls on the floor and child 3, who has been watching child 6, laughs loudly ( ~~DA~~ ). The teacher does not respond ( NR ). (The buzzer sounds.) The teacher tells the class it might be a good idea to have a Halloween party ( ~~TT-~~ ). Child 6 says he can bring some apples ( TT- ). The teacher and some peers say that this is a fine idea ( ~~AP~~ ). (Buzzer sounds.)

The teacher asks 5 to read ( ~~CA~~ ). Child 9 (new subject) looks at one of the children who is doing individual seat work ( LO ). The teacher tells 9 to pay attention ( CM ). (Buzzer sounds.) Child 9 pays attention ( AT CO ) and the teacher returns to following in her book as child 5 reads ( NR ). (The buzzer sounds.)

Child 4 (new subject) reads in unison with the other children

and the teacher ( ~~BD~~ ~~RD~~ ). (The buzzer sounds.) One of the students, who is working at her desk on workbook assignments, raises her hand. The teacher asks what she wants ( OT ). The student asks a question and the teacher gives an answer. Child 4 looks at his shoes during this period ( (NA) ). The teacher is still answering the other student's question ( NR ). ( The buzzer sounds.)

The teacher continues to interact with the student outside the reading group ( OT ). Child 5 (new subject) tells child 4 they can use the dodge ball during recess ( (SI) (IP) ). Child 4 says that they will have to choose teams (~~IP~~). The teacher is busy elsewhere ( NR ). (Buzzer sounds.) The teacher looks at the reading group and asks who wants to read the next paragraph ( OM ). Child 2 volunteers and begins to read aloud. Child 4 and 5 follow in their books ( (AT) ) while the teacher continues to be busy talking to a student outside the group ( NR ). (The buzzer sounds.)

The teacher and peers follow in their books ( (AT) ) as child 2 (new subject) reads ( (RD) ). (The buzzer sounds.) Child 2 continues to read aloud ( (RD) ) as the peers and teacher follow in their books (~~AT~~). (The buzzer sounds.)

The teacher explains to the class the reason for the use of paragraphs in stories ( ~~LC~~ ). Child 8 (new subject) attends ( (AT) ), as do the other children, while the teacher goes on ( LC ). (The buzzer sounds.) The teacher is still explaining the use of paragraphs ( ~~LC~~ ) with child 8 ( (AT) ) and the other children attending ( LC ). The teacher asks child 8 how she can know when a paragraph begins

from looking at the arrangement of printing on a page ( (QA) ). Child 8 gives a correct answer ( (RT) ) and the teacher enthusiastically says, "That is exactly what I was looking for!" ( AP ) (The buzzer sounds.)

Peer 8 looks at ( (AT) ) child 3 (new subject) for a moment and then tells her that she is on the wrong page ( (PI) (IS+) ). The teacher explains a point about paragraphs to child 2 ( ~~TT+~~ ). Child 3 turns to the right page ( (IP+) ) and peer 8 says, "That's the right page." ( ~~IP+~~ ) The teacher continues to talk to child 2 ( NR ). (The buzzer sounds.) The teacher asks child 3 if she understands the use of paragraphs ( (QA) ). Child 3 continues to look at her book and makes no response ( (IG) ). The teacher repeats the question ( SC QA ). (Buzzer sounds.) Child 3 still says nothing ( (IG) ); and the teacher then says that a pretty young girl like her might have some idea why paragraphs are used in books ( SC AP TT+ ). Another child volunteers ( ~~VO~~ ) to explain the use of paragraphs and the teacher stares at child 3 ( AT ) who continues to remain quiet ( (IG) ). (The buzzer sounds.)

Having coded each child in the reading group being observed, Sharon again codes Child 1 as the subject. Child 1 is staring out of the window ( (LO) ) as the teacher lectures to the group ( ~~DC~~ ~~LC~~ ). (The buzzer sounds.) The teacher continues her lecture ( ~~DC~~ ~~LC~~ ) as 1 continues staring ( (LO) ). (The buzzer sounds.)

PAGE

DATE 9.17.71 OBSERVER S.D. TIME 9:45 A.M.

Structured X Unstructured ___ TEACHER Colby

Group X Individual ___ Transitional ___ Teacher to Peer = ✓ Teacher = |
Subject = ○ Group = X
Peer = —

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | AT (IS+) (PI) IS- DS | | | | | | | | |
| 1 | ~~QA~~ QM QD | CA CM CD | AT LC RD | TT TM TD TT- | AP DI | DS | OT | TG | |
| | AT LC RD WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | * |
| | SI (IP+) IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ PI IS- DS | | | | | | | | |
| 1 | ~~QA~~ QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | |
| | AT LC RD WK | AQ RT (WR) DK | IT CL VO | ~~QA~~ QM QD | CA CM CD | TT+ TM TD TT- | | | * |
| | SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ (PI) IS- (DS) | | | | | | | | |
| 7 | QA QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | |
| | AT LC RD WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | * |
| | SI IP+ (IP-) | (DP) DT (DA) | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ PI IS- DS | | | | | | | | |
| 7 | QA QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | |
| | AT LC (RD) WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | |
| | SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC (CO) | NR | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ PI IS- DS | | | | | | | | |
| 7 | (QA) QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | |
| | AT LC RD WK | AQ RT (WR) DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | * |
| | SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ PI IS- DS | | | | | | | | |
| 7 | QA QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | |
| | AT LC RD WK | AQ RT WR (DK) | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | * |
| | SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | |

PAGE 2

DATE 9.17.70 OBSERVER S.D. TIME

Structured X Unstructured ___ TEACHER Colby

Group X Individual ___ Transitional ___ Teacher to Peer = ✓ Teacher =
Subject = ◯ Group = X
Peer = —

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ | PI | IS- | DS | | | | | | |
| 6 | QA | QM | QD | ~~CA~~ | CM | CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG |
| | AT LC RD WK | | | AQ RT WR DK | | | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | |
| | SI | IP+ | IP- | DP | DT | ~~DA~~ | (PL) IL LO SS NA | | AP SC DI IG NC CO | | NR | |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ | PI | IS- | DS | | | | | | |
| 6 | QA QM QD | | | CA CM CD | | | AT LC RD | TT+ TM TD ~~TT-~~ | AP DI | DS | OT | TG |
| | AT LC RD WK | | | AQ RT WR DK | | | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD (TT-) | | |
| | SI | IP+ | IP- | DP | DT | D/ | PL IL LO SS NA | | ~~AP~~ SC DI IG NC CO | | NR | |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ | PI | IS- | DS | | | | | | |
| 9 | ~~QA~~ QM QD | | | CA CM CD | | | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG |
| | AT LC RD WK | | | AQ RT WR DK | | | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | |
| | SI | IP+ | IP- | DP | DT | DA | PL IL (LO) SS NA | | AP SC DI IG NC CO | | NR | |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ | PI | IS- | DS | | | | | | |
| 9 | QA QM QD | | | CA CM CD | | | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG |
| | (AT) LC RD WK | | | AQ RT WR DK | | | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | |
| | SI | IP+ | IP- | DP | DT | DA | PL IL LO SS NA | | AP SC DI IG NC (CO) | | NR | |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ | PI | IS- | DS | | | | | | |
| 4 | QA QM QD | | | CA CM CD | | | AT LC ~~RD~~ | TT+ TM TD TT- | AP DI | DS | OT | TG |
| | AT LC (~~RD~~) WK | | | AQ RT WR DK | | | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | |
| | SI | IP+ | IP- | DP | DT | DA | PL IL LO SS NA | | AP SC DI IG NC CO | | NR | |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ | PI | IS- | DS | | | | | | |
| 4 | QA QM QD | | | CA CM CD | | | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG |
| | AT LC RD WK | | | AQ RT WR DK | | | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | |
| | SI | IP+ | IP- | DP | DT | DA | PL IL LO SS (NA) | | AP SC DI IG NC CO | | NR | |

*

DATE 9.17.71 OBSERVER S.D. TIME

Structured X Unstructured TEACHER Colby

Group X Individual ___ Transitional ___ Teacher to Peer = ✓ Teacher = |
Subject = ○ Group = X
Peer = ——

| | | |
|---|---|---|
| | AT IS+ PI IS- DS | |
| 5 | QA QM QD \| CA CM CD \| AT LC RD \| TT+ TM TD TT- \| AP DI \| DS \| OT \| TG | |
| | AT LC RD WK \| AQ RT WR DK \| IT CL VO \| QA QM QD \| CA CM CD \| TT+ TM TD TT- | |
| | (SI) IP+ (IP-) \| DP DT DA \| PL IL LO SS NA \| AP SC DI IG NC CO \| NR | * |
| | AT IS+ PI (IS-) DS | |
| 5 | QA QM QD \| CA CM CD \| AT LC RD \| TT+ TM TD TT- \| AP DI \| DS \| OT \| TG | |
| | AT LC RD WK \| AQ RT WR DK \| IT CL VO \| QA QM QD \| CA CM CD \| TT+ TM TD TT- | |
| | SI IP+ (IP-) \| DP DT DA \| PL IL LO SS NA \| AP SC DI IG NC CO \| NR | * |
| | AT IS+ PI IS- DS | |
| 5 | QA X QD \| CA CM CD \| AT LC RD \| TT+ TM TD TT \| AP DI \| DS \| OT \| TG | |
| | (AT) LC RD WK \| AQ RT WR DK \| IT CL VO \| QA QM QD \| CA CM CD \| TT+ TM TD TT- | |
| | SI IP+ IP- \| DP DT DA \| PL IL LO SS NA \| AP SC DI IG NC CO \| NR | * |
| | (AT) IS+ PI IS- DS | |
| 2 | QA QM QD \| CA CM CD \| (AT) LC RD \| TT+ TM TD TT- \| AP DI \| DS \| OT \| TG | |
| | ~~AT~~ LC (RD) WK \| AQ RT WR DK \| IT CL VO \| QA QM QD \| CA CM CD \| TT+ TM TD TT- | |
| | SI IP+ IP- \| DP DT DA \| PL IL LO SS NA \| AP SC DI IG NC CO \| NR | ** |
| | AT IS+ PI IS- DS | |
| 8 | QA QM QD \| CA CM CD \| AT X RD \| TT+ TM TD TT- \| AP DI \| DS \| OT \| TG | |
| | (AT) LC RD WK \| AQ RT WR DK \| IT CL VO \| QA QM QD \| CA CM CD \| TT+ TM TD TT- | |
| | SI IP+ IP- \| DP DT DA \| PL IL LO SS NA \| AP SC DI IG NC CO \| NR | * |
| | AT IS+ PI IS- DS | |
| 8 | QA QM QD \| CA CM CD \| AT X RD \| TT+ TM TD TT- \| AP DI \| DS \| OT \| TG | |
| | (AT) LC RD WK \| AQ RT WR DK \| IT CL VO \| QA QM QD \| CA CM CD \| TT+ TM TD TT- | |
| | SI IP+ IP- \| DP DT DA \| PL IL LO SS NA \| AP SC DI IG NC CO \| NR | |

DATE 9.17.71 OBSERVER S.D. TIME

Structured X Unstructured TEACHER Colby

Group X Individual Transitional Teacher to Peer = √ Teacher =
Subject = ◯ Group = X
Peer =

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AT IS+ PI IS- DS | | | | | | | | | |
| 8 | (QA) QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | | |
| | AT LC RD WK | AQ (RT) WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| | SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | | * |
| | (AT) (IS+) (PI) IS- DS | | | | | | | | | |
| 3 | QA QM QD | CA CM CD | AT LC RD | ~~TT+~~ TM TD TT- | AP DI | DS | OT | TG | | |
| | AT LC RD WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| | SI ~~IP+~~ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | | * |
| | AT IS+ PI IS- DS | | | | | | | | | |
| 3 | (QA) QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | | |
| | AT LC RD WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| | SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI (IG) NC CO | NR | | | | | * |
| | AT IS+ PI IS- DS | | | | | | | | | |
| 3 | QA QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | | |
| | AT LC RD WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| | SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI (IG) NC CO | NR | | | | | |
| | AT IS+ PI IS- DS | | | | | | | | | |
| 3 | QA QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | | |
| | AT LC RD WK | AQ RT WR DK | IT CL ~~VO~~ | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| | SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI (IG) NC CO | NR | | | | | * |
| | AT IS+ PI IS- DS | | | | | | | | | |
| 1 | QA QM QD | CA CM CD | AT ~~LC~~ RD | ~~TT+ TM TD TT-~~ | AP DI | DS | OT | TG | | |
| | AT ~~LC~~ RD WK | AQ RT WR DK | IT ~~CL~~ VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| | SI IP+ IP- | DP DT DA | ~~PL~~ IL (LO) SS NA | AP SC DI IG NC CO | NR | | | | | ** |

DATE _____ OBSERVER _____ TIME _____

Structured ___ Unstructured ___ TEACHER _____

Group ___ Individual ___ Transitional ___ Teacher to Peer = ✓ Teacher = |
Subject = ○ Group = X
Peer = —

| AT IS+ PI IS- DS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| QA QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | | |
| AT LC RD WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | | |

| AT IS+ PI IS- DS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| QA QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | | |
| AT LC RD WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | | |

| AT IS+ PI IS- DS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| QA QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | | |
| AT LC RD WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | | |

| AT IS+ PI IS- DS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| QA QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | | |
| AT LC RD WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | | |

| AT IS+ PI IS- DS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| QA QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | | |
| AT LC RD WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | | |

| AT IS+ PI IS- DS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| QA QM QD | CA CM CD | AT LC RD | TT+ TM TD TT- | AP DI | DS | OT | TG | | |
| AT LC RD WK | AQ RT WR DK | IT CL VO | QA QM QD | CA CM CD | TT+ TM TD TT- | | | | |
| SI IP+ IP- | DP DT DA | PL IL LO SS NA | AP SC DI IG NC CO | NR | | | | | |

RELIABILITY

All observers need to check themselves frequently to ensure that they are recording classroom behaviors as was intended by the investigators. Individual observers tend to develop their own idiosyncratic definitions even after being highly trained. In fact, it has been found that pairs of observers drift away from the original definitions while still agreeing with each other. For these reasons, constant monitoring is crucial for the collection of reliable and valid data.

One way to monitor your observation skills is to record classroom behaviors of the same subjects in conjunction with another observer. Using your own and the other observer's coded sheets, you can compute the degree to which the recordings match. The result is referred to as an estimate of the reliability of observer agreement. The higher the reliability the greater the agreement between observers and the higher the chance that the recordings accurately reflect the behaviors they observed. Such checks should occur at every observation during training and at least once a week after training has been completed.

When there are more than two observers on a project using the same observation system, two kinds of reliability checks can be made. One observer can be established as the "standard" by which all other observers are measured, or observers can rotate so that each will get some estimate of his or her agreement with every other observer. In the first example, each observer is tested against the "standard" observer. The "standard" observer should not be selected by arbitrary

decision, but only after demonstrating high reliability with a standardized video training tape. For example, weekly or monthly training sessions may be held using previously recorded and coded videotapes of classroom interaction. The observer showing the highest reliability with the videotape can be assigned the role of "standard" observer until the next training session. During that period, only the selected observer's recordings would be used to test the reliability of all other observers.

When a project lacks a "standard" observer, then the observers should rotate so that estimates of reliability are obtained between all pairs of observers at least once before the same pair of observers are checked a second time. In this way, if one observer is having consistently low agreements with others the source of the mismatching can be investigated. The rotating procedure protects against two observers developing mutual idiosyncrasies that result in high reliabilities for them but unknown reliabilities with other observers. For example, if four observers A, B, C, and D were always checked by comparing A with B and C with D, no information would be available on the reliabilities between A and C, A and D, B and C, and B and D. By rotating, each observer is checked with every other observer so that idiosyncrasies are less likely to develop.

Not only must reliability be maintained for the total number of behaviors, but the sequence of events must be recorded accurately for subjects, peers, and teachers behaviors. For this reason, the agreements and disagreements are calculated for each line of each block on the recording sheet. On each line given observers A and B,

three events can occur: both observers may agree upon the recording of a behavior for a particular subject or agent (peer or teacher); Observer A may have recorded a behavior for an individual which was missed by the other; or, conversely, Observer B may have recorded a behavior for a subject or agent not recorded by Observer A. The first event is an agreement, the other two are disagreements. The following are examples:

If Observer A coded ( A~~T~~ ) as a peer consequence, and on the same line Observer B had not recorded an ( AT ) response for anyone, then one disagreement is counted. If, however, Observer A coded ( A~~T~~ ) as a peer consequence whereas Observer B coded ( AT ) as a teacher consequence, then two disagreements would be counted (one for the peer and the other for the teacher response). Should Observer B have recorded ( A~~T~~ ) as both a peer and teacher response, then one agreement as well as one disagreement is counted (the former for the match of the peer's behavior, the latter for the mismatch of the teacher's response). Disagreements can occur as a result of mismatches or omissions of behaviors as well as mismatches or omissions of the persons identified with the behaviors. In every case where a mismatch occurs, a disagreement is recorded. On each line, therefore, it is important to note and record all of the possible agreements and disagreements that can occur.

How you compute the percentage agreement depends upon whether or not a "standard" observer is used. Two methods are available and both will be explained. Simply follow the directions as outlined

and use the method appropriate for your project.

Reliability Using "Standard"

1. In the margin of each line of the "Standard" observer's coding sheets, record the total number of behaviors coded. Note that every symbol placed on a code represents a behavior. For example, AT represents a response by the subject as well as two consequent behaviors by the peers and teacher. It is counted, therefore, as three behaviors.

2. Compute the total number of behaviors coded by the "Standard" observer for the entire recording session.

3. On each line of the other observer's sheet, score one point for each agreement with the "Standard".

4. On each line subtract one point for each disagreement. Remember, there are various ways in which mismatches or omissions may occur.

5. Calculate the total points for each line of your sheet and place the number in the margin.

6. Add up the totals in the margin for the complete recording session.

7. Divide ( 6 ) by ( 2 ) and multiply by 100.

This number represents the percentage agreement with the coding of the "Standard" observer.

Reliability Without "Standard"

1. Use only one observer's sheet for tallying.

2. On each line, score one point for any exact agreement be-

tween observers.

3. On each line, tally one point for any disagreement created by the recording of a behavior by Observer A and missed by Observer B, and score one point for any disagreement as a result of Observer B recording a behavior missed by Observer A.

4. Add up the total number of agreements.

5. Add up the total number of disagreements.

6. Compute the total number of behaviors observed by both observers by adding ( 4 ) and ( 5 ).

7. Divide the total number of agreements ( 4 ) by the grand total ( 6 ) and multiply by 100.

This number will be the percentage agreement between two observers when neither one is the standard. This assumes that each kind of disagreement may have occurred and increases the total in the denominator.

The reliability estimates may be computed for any part of the recording sheet. When low reliabilities are occurring in the field or during training, it is important to determine where the mistakes are located. The percent agreements may be calculated separately for peer antecedent, teacher antecedent, subject behavior or peer and teacher consequences. This is simply carried out by calculating only the percent agreements for each category separately. For example, we found that it is possible to have high reliabilities on subject behavior and at the same time have many disagreements on teacher antecedents. This may be corrected by checking the rules given earlier

about the correct sequence for recording the total interaction.

It is also important to determine the reliabilities for each of the behavioral categories since those categories which consistently produce low reliabilities may be subject to greater individual interpretation and need checking frequently. For any computation, proceed with the steps previously outlined to obtain a reliability estimate for the total recording session or for a specified segment of the session. In each case, calculate the number of agreements and disagreements on each line, and compute the totals using the appropriate calculation for your system.

GOOD LUCK!!!!

## FOOTNOTES

1. Joseph A. Cobb, Ph.D., is Director, Program II, at CORBEH and Research Associate at the Oregon Research Institute. Hyman Hops, Ph.D., is Principal Investigator of Program II, Project A, at CORBEH and Research Associate in the Department of Psychology, University of Oregon.